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SIEMENS

PATENT
Attorney Docket No. 2003P14536US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Inventor:	R. Martin)		
)	Group Art Unit:	3663
Serial No.:	10/669,862)		
)	Examiner:	E. Pipala
Filed:	September 24, 2003)		
Title:	TURBINE COMPONENT TRACKING SYSTEM			

Commissioner For Patents
PO BOX 1450
Alexandria, VA. 222313-1450

Sir:

APPELLANT'S BRIEF

This Appeal Brief relates to the final rejection of claims 8-27 in the Office Action mailed April 20, 2007.

Serial No. 10/961,626**Atty. Doc. No. 2004P16180US****Real Party in Interest**

This application is assigned to Siemens Power Generation, Inc., a Delaware corporation having a principle place of business in Orlando, Florida. Siemens Power Generation, Inc, is a wholly owned subsidiary of Siemens Corporation of Iselin, New Jersey.

Related Appeals and Interferences

There are no prior and pending appeals, interferences or judicial proceedings known to Applicant, Applicant's legal representative, or Assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims

Claims 8-27 stand rejected by the Office Action mailed April 20, 2007 and are presently under appeal in this proceeding. Claims 1-7 were canceled during prosecution. No other claims stand rejected, allowed, withdrawn, objected to, or canceled.

Status of Amendments

No Amendment was filed after the final Office Action mailed April 20, 2007.

Summary of Claimed Subject Matter**Independent Claim 8**

Referring to Figures 1 and 2, independent claim 8 recites a method of tracking turbine components 2 comprising:

marking a plurality of turbine components 2 with indicia applied to a surface of the components 10 (see e.g. page 5 line 22 – page 6 line 9);

placing the marked turbine components 2 in a plurality of turbines 14 (see e.g. page 6 lines 15-19);

operating the turbines 14 (see e.g. page 6 lines 15-19);

obtaining operation data from the turbines via at least one turbine control system 16 (see e.g. page 6 line 20 – page 7 line 8);

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uploading the operation data from the turbine control systems to a central processing station 18 (see e.g. page 7 line 9 –page 8 line 5); and

using the uploaded data at the central processing station to track desired aspects of the marked turbine components 20 (see e.g. page 8 lines 6-18).

Dependent Claim 10

Referring to Figures 1 and 2, dependent claim 10 recites that the marking identifies a material composition from which at least a portion of the turbine component 2 was manufactured. (see e.g., page 6 lines 4-9, page 9 lines 1-9)

Dependent Claim 11

Referring to Figures 1 and 2, dependent claim 11 recites that the marking identifies a manufacturing step from which at least a portion of the turbine component 2 was manufactured. (see e.g., page 6 lines 4-9, page 9 lines 1-9)

Dependent Claim 19

Referring to Figures 1 and 2, dependent claim 19, recites that statistical analysis is performed on the operation data to help estimate the cost of a repair operation. (see e.g., page 9 lines 1-11)

Dependent Claim 20

Referring to Figures 1 and 2, dependent claim 20 recites that the markings are readable by a human looking at the surface of the component 2. (see e.g. page 5 line 22 – page 6 line 9)

Dependent Claim 21

Referring to Figures 1 and 2, dependent claim 21 recites that the turbine components 2 are marked with a bar code. (see e.g. page 5 line 22 – page 6 line 9)

Dependent Claim 27

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Referring to Figures 1 and 2, dependent claim 27 recites that a new, repaired or refurbished turbine marked turbine component 2 is coordinated or matched with turbine engines having a particular turbine component need. (see e.g., page 8 line 19 – page 9 line 1)

Grounds for Rejection to be Reviewed on Appeal

Whether claims 8, 9, 12-18 and 20 are unpatentable under Section 103(a) as being obvious over Herron (USPN 6,343,251) in view of Henry (USPN 6,845,306).

Whether claims 10, 11, 19 and 21-27 are unpatentable under Section 103(a) as being obvious over Herron (USPN 6,343,251) in view of Henry (USPN 6,845,306) and further in view of Isobe (USPN 6,636,813).

Appellant's Argument

Whether claims 8, 9, 12-18 and 20 are unpatentable under Section 103(a) as being obvious over Herron (USPN 6,343,251) in view of Henry (USPN 6,845,306).

Independent Claim 8

Independent Claim 8 stands rejected under 35 U.S.C. § 103(a), the Examiner contending that these claims are obvious over Herron (USPN 6,343,251) in view of Henry (USPN 6,845,306). The Examiner apparently reads Herron as disclosing Applicants' claimed invention except for marking a plurality of turbine components with indicia applied to a surface of the components, and using the uploaded data at the central processing station to track desired aspects of the marked turbine components, and contends that it would have been obvious to select the embedded computer chip of Henry and then further modify the Herron/Henry combination to arrange the computer chip on the component surface. Applicant respectfully submits that the Examiner has erred for at least two reasons.

ARGUMENT I - THE EXAMINER HAS COMMITTED ERROR BY DISREGARDED THE REQUIREMENTS
OF MPEP 2143.02VI AND MPEP 716.01

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It is error for the Examiner to disregard the requirements of MPEP 2143.02VI and MPEP 716.01.

Heron discloses an individualized maintenance schedule for a turbine, not the above underscored claim limitation. See e.g. Applicant's Background section page 2 lines 20-22. As further explained in Applicant's Background section, if individualized turbine maintenance schedules are used, a problem arises if an individual turbine component is used on more than one turbine, and another problem arises if a component type is not identical with another similar component type, and yet another problem arises if some individual components are repaired or replaced while other individual component are not repaired or replaced within the turbine. Applicant's invention resolves these problems; Herron's invention does not.

Importantly, Herron's invention is wholly unequipped to address or resolve these problems. In fact, for Herron's invention to do so, would require it to vastly change its principle of operation (e.g. the controller 14, on-site monitor 16, remote database 18, among other features would have to be completely redesigned and overhauled to enable it to track of individual components). Applicant submitted a Declaration of Richard Martin attesting to this matter. See e.g. Declaration para 5.

MPEP 2143.02VI states:

If the proposed modification or combination of the prior art would **change the principle of operation** of the prior art invention being modified, then the teachings of the references are **not sufficient** to render the claims prima facie obvious.

Moreover, MPEP 716.01 requires:

Evidence traversing rejections when timely presented **must** be considered by the Examiner whenever present. All entered affidavits, declarations, and other evidence traversing rejections are **acknowledged and commented upon** by the examiner in the next succeeding action taken by the Examiner. ... Where the evidence is insufficient to overcome the rejection, the examiner **must specifically explain** why the evidence is insufficient.

The Examiner's response to Applicant's MPEP 2143.02VI and 716.01 based arguments was to simply disregard. Applicant respectfully submits that the Examiner has committed

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error by disregarding the requirements of MPEP 2143.02VI and MPEP 716.01. Thus, the Examiner's Section 103 rejections are improper and must be withdrawn.

ARGUMENT II - THE EXAMINER HAS COMMITTED ERROR BY DISREGARDED THE REQUIREMENTS OF MPEP 2143.02V AND MPEP 716.01

It is error for the Examiner to simply ignore and choose not to address the requirements of MPEP 2143.02V and MPEP 716.01.

Henry embeds its computer chip within the LRU components, col. 2 lines 42-43, which is necessary for the delicate computer chip to withstand the extremely high turbine temperature within which many of the turbine components operate. See e.g. Applicant's spec page 1 lines 17-18 (2,700°F), Herron page 1 lines 53-59. If Henry's computer chip was applied to the surface of the turbine component it would incinerate. Applicant submitted a Declaration of Richard Martin attesting to this matter. See e.g. Declaration para 7.

MPEP 2143.02 V states:

if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

MPEP 716.01 requires:

Evidence traversing rejections when timely presented must be considered by the Examiner whenever present. All entered affidavits, declarations, and other evidence traversing rejections are acknowledged and commented upon by the examiner in the next succeeding action taken by the Examiner. ... Where the evidence is insufficient to overcome the rejection, the examiner must specifically explain why the evidence is insufficient.

The Examiner's response to Applicant's MPEP 2143.02V and 716.01 based arguments was to simply disregard them. Applicant respectfully submits that the Examiner has committed error by disregarding the requirements of MPEP 2143.02V and MPEP 716.01. Thus, the Examiner's Section 103 rejections are improper and must be withdrawn.

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ARGUMENT III – EACH OF THE EXAMINER’S FOUR OBVIOUSNESS CONTENTIONS ARE FLAWED

Notwithstanding that MPEP 2143.02 IV and V particularly mandate a determination of nonobviousness for this invention in view of the cited art, each of the Examiner’s four obviousness contentions are flawed. The Examiner apparently makes four separate contentions to support a finding of obviousness (see “Response to Arguments” section of Final office action). Based on these four separate contentions, the Examiner deems the MPEP 2143.02 and Declaration arguments unpersuasive without addressing their merits.

- (1) “the components can be considered to be “marked” in either or both of by the embedding of memory chips in each of the LRU’s as taught in lines 42-43 of col. 2, and by the use of component serial numbers (or even part numbers for that matter as it concerns the claims) which is taught in the latter part of this same paragraph .”
- (2) “markings on the turbine components is essentially inherent”
- (3) “use of the part and serial numbers is clearly shown on the front of the Henry et al. patent”
- (4) “then there’s the issue that it is notoriously old to “mark” items when they are manufactured with indicia ... as taught by Henry et al. in the first lines of column 3.”

Regarding the first contention, the Examiner argues that the embedding of memory chips in each of the LRU’s as well as the using of component serial numbers as taught in lines 42-43 of col. 2 of Henry reads on the claim language: marking a plurality of turbine components with indicia applied to a surface of the components.

As Applicant’s previously argued, embedding a memory chip is not marking with indicia applied to a surface of the component. Similarly, embedding a memory chip containing component serial numbers is not marking with indicia applied to a surface of the component.

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It is incumbent upon the Examiner to find a teaching or suggestion in the prior art that corresponds to the claim limitation - not a teaching or suggestion that is somewhat close to the claim limitation. The MPEP provides no "somewhat close" exception.

2143.03 All Claims Limitations Must Be Taught or Suggested

To establish prima facie case obviousness of a claimed invention, **all the claim limitations must be taught or suggested by the prior art.** *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Regarding the second contention, the Examiner argues that marking the surface of a turbine component with indicia is "essentially inherent" by embedding a computer chip within a component

The Examiner's inherency analysis is insufficient under MPEP § 2112:

2112 Requirements of Rejection Based on Inherency; Burden of Proof

...

IV. EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING TO SHOW INHERENCY

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic...

To establish inherency, the extrinsic evidence must make clear that **the missing descriptive matter is necessarily present** in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

...

In relying upon the theory of inherency, the examiner must **provide a basis in fact and/or technical reasoning** to reasonably

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support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

The Examiner does not "provide a basis in fact and/or technical reasoning to reasonably support" the contention that the claimed marking the surface of a turbine component with indicia is necessarily present when embedding a computer chip within a component. In fact common sense suggests that embedding a computer chip within a component would not cause the surface to be marked at all, let alone causing the surface marking to be "necessarily present".

Regarding the third contention, the Examiner argues that use of the part and serial numbers is clearly shown on the front of the Henry et al. patent. In response, Applicant respectfully submits that while the front of the Henry patent does provide a flowchart that includes a flowbox stating "receive part number and serial number for an LRU" [from the embedded computer chip], it does not teach or suggest the claimed marking with indicia applied to a surface of the component.

Regarding the fourth contention, the Examiner argues that it is notoriously old to "mark" items when they are manufactured with indicia ... as taught by Henry et al. in the first lines of column 3. In response, Applicants respectfully submit that the first lines of column 3 of Henry discloses embedding a computer chip, it does not teach or suggest the claimed marking with indicia applied to a surface of the component. As previously explained, just because it is known to mark the surface of components does not require a finding a nonobviousness for this particular invention in view of the cited art. To the contrary, MPEP 2143.02 IV and V require a finding of nonobviousness. Moreover, MPEP 2144.03 decidedly frowns upon reliance on the contention that if an aspect of the claimed invention is "notoriously old" then its combination with other limitations is obvious, and requires the Examiner to follow a detailed procedure when making such a contention. The Examiner has not followed this procedure.

In summary, the Examiner apparently reads Herron as disclosing Applicants' claimed invention except for marking a plurality of turbine components with indicia applied to a surface of the components, and using the uploaded data at the central processing station to track desired

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aspects of the marked turbine components, and contends that it would have been obvious to select the embedded computer chip of Henry and then further modify the Herron/Henry combination to arrange the computer chip on the component surface. The Examiner is respectfully urged to avoid the insidious temptation of hindsight to conclude that the inventive features taught by Applicant are merely obvious design considerations. Only Applicant's specification teaches the particularly claimed combination, not the prior art. Applicant respectfully submits that it is improper for the Examiner to rely upon the level of ordinary skill in the art to supply what the Examiner was unable to find – either the claimed combination or a suggestion to modify:

The level of skill in the art is a prism or lens through which a judge or jury views the prior art and the claimed invention. This reference point prevents these deciders from using their own insight or, worse yet, hindsight, to gauge obviousness. Rarely, however, will the skill in the art component operate to supply missing knowledge or prior art to reach an obviousness judgment. See *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983) ("To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references or record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against the teacher.').

Al-Site Corp. v. VSA Int'l., Inc., 174 F.3d 1308, 1324, 50 U.S.P.Q.2d 1161, 1177 (Fed. Cir. 1999) (emphasis added).

This is not one of those rare cases where the level of skill can supply a missing claim limitation or suggestion to modify the prior art, especially since it is the inventive features of claim 8 that are not shown or suggested by the prior art.

The Examiner does not provide a proper suggestion or motivation. Therefore, the rejection of claim 8 must fail. Dependent claims 9, 12-18 and 20 are patentability based on their dependency from independent claim 8 as well as based on their own merit.

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Whether claims 10, 11, 19 and 21-27 are unpatentable under Section 103(a) as being obvious over Herron (USPN 6,343,251) in view of Henry (USPN 6,845,306) and further in view of Isobe (USPN 6,636,813).

Claims 10, 11 and 19

Claims 10, 11 and 19 stands rejected under 35 U.S.C. § 103(a), the Examiner contending that these claims are obvious over Herron (USPN 6,343,251) in view of Henry (USPN 6,845,306) and further in view of Isobe (USPN 6,636,813). The Examiner apparently reads Herron and Henry as above, and reads Isobe as disclosing that the marking identifies a material composition from which at least a portion of the turbine component was manufactured, referencing col. 3 lines 6-27 and 49-63.

In the final Office Action, the Examiner stated that:

"It is because Isobe et al., teaches evaluating the remaining life of turbine components in consideration of the design and material of turbine components that is was used in the above rejection of claims 10, 11 and 19, in that components such as turbine blades are individually evaluated and tracked by both part and serial numbers, which also enable one using the life management system of Isobe et al. to also determine the original design and material of the component as stated previously."

The Examiner therefore contends that some unspecified portion of Isobe discloses the limitations recited in claims 10, 11 and 19. However, the Examiner does not indicate which of the host of things discussed in Isobe corresponds to where the marking identifies a material composition for which at least a portion of the turbine component was manufactured (claim 10), where the marking identifies a manufacturing step from which at least a portion of the turbine component was manufactured (claim 11), or where statistical analysis is performed on the operational data th help estimate the cost of a repair operation" (claim 19). When a reference is complex . . . the particular part relied on must be designated as nearly as practicable. The pertinence . . . must be explained," 37 CFR § 1.104(c)(2). Here, the Examiner fails to identify any text in Isobe where the claimed limitations are supposedly disclosed.

Because of these omissions, Applicant can only guess at the Examiner's view. Without waiving the opportunity to reply to a proper rejection, and in an effort to advance prosecution,

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Applicant notes that no portion of Isobe discloses or suggests the limitations recited in claims 10, 11, or 19. In fact, Applicant respectfully submits that Isobe: (1) teaches a remaining life system in consideration of the design and material of turbine components similar to Herron, and (2) does not teach or suggest that components such as turbine blades are individually evaluated and tracked. Therefore Applicant respectfully submits that Isobe provides no further teaching or suggestion over Herron, and respectfully requests the Examiner to clarify and cite where Isobe provides the further limitations recited in claims 10, 11 and 19. Until then, the rejection is improper.

Claim 20

Claim 20 recites that the markings are readable by a human looking at the surface of the component. The Examiner fails to indicate where or how the prior art teaches or suggests this limitation. Until then, the rejection is improper.

Claim 21

Claim 21 recites that the turbine components are marked with a bar code. In contrast, the Henry discloses a serial number (Col. 3. lines line 65). In the Restriction Requirement para 2, the Examiner determined that marking with a bar code (species A) and marking with a serial number (species B) were patentably distinct species. See e.g. MPEP 808.1(a) "A requirement for restriction is permissible if there is a patentable difference between the species as claimed." Not only does the Examiner provide no explanation as to why reversal of his earlier determination is warranted, but the Examiner does not withdraw the species restriction. It is clearly improper for the Examiner to maintain that the species are patentably distinct yet obvious. Applicants respectfully submit that the Examiner's initial determination was proper and that the Examiner's subsequent determination was improper. Therefore, Applicant respectfully requests allowance of claim 21.

Claim 27

Claim 27 recites that a new, repaired or refurbished marked turbine component is coordinated or matched with turbine engines having a particular turbine component need. The

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Examiner fails to indicate where or how the prior art teaches or suggests this limitation. Until then, the rejection is improper.

Conclusion

For the foregoing reasons, Applicant respectfully submits that the rejections set forth in the outstanding Office Action are inapplicable to the pending claims. The honorable Board is therefore respectfully requested to reverse the outstanding rejections of the Examiner and to remand the application to the Examiner with instructions to allow the pending claims.

Please grant any extensions of time required to enter this paper. Please charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

Dated: 5/31/07

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Claims Appendix

1-7. (canceled)

8. A method of tracking turbine components, comprising:
marking a plurality of turbine components with indicia applied to a surface of the components;

placing the marked turbine components in a plurality of turbines;

operating the turbines;

obtaining operation data from the turbines via at least one turbine control system;

uploading the operation data from the turbine control systems to a central processing station; and

using the uploaded data at the central processing station to track desired aspects of the marked turbine components.

9. The method of claim 8, wherein the marking identifies a location where at least a portion of the turbine component was manufactured.

10. The method of claim 8, wherein the marking identifies a material composition from which at least a portion of the turbine component was manufactured.

11. The method of claim 8, wherein the marking identifies a manufacturing step from which at least a portion of the turbine component was manufactured.

12. The method of claim 8, wherein the marking identifies a repair procedure that at least a portion of the turbine component underwent.

13. The method of claim 8, wherein the operational data is selected from the group comprising equivalent base hours and equivalent starts.

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14. The method of claim 8, wherein the operational data includes the turbine in which the turbine component is placed.

15. The method of claim 8, wherein the desired aspects of the turbine component includes the remaining life of the turbine component.

16. The method of claim 8, wherein the desired aspect of the turbine component includes a description of the turbine component.

17. The method of claim 8, wherein the turbine is a land based combustion turbine engine.

18. The method of claim 17, wherein the turbine is part of a power plant that produces electricity.

19. The method of claim 8, wherein the statistical analysis is performed on the operational data to help estimate the cost of a repair operation.

20. The method of claim 8, wherein the markings are readable by a human looking at the surface of the component.

21. The method of claim 8, wherein the turbine components are marked with a bar code.

22. The method of claim 8, wherein the desired aspects of the marked turbine components include the location of the marked turbine component.

23. The method of claim 8, wherein the desired aspects of the marked turbine components include operational data associated with the marked turbine component.

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24. The method of claim 8, wherein the desired aspects of the marked turbine components include when and where the marked turbine component was manufactured.
25. The method of claim 24, wherein the desired aspects of the marked turbine components further include which turbine engine(s) in which the marked turbine component was used.
26. The method of claim 25, wherein the desired aspects of the marked turbine components further include any repair or refurbishment that was performed on the marked turbine component was used.
27. The method of claim 8, wherein a new, repaired or refurbished turbine marked turbine component is coordinated or matched with turbine engines having a particular turbine component need.

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Evidence Appendix

Declaration of Richard Martin dated January 24, 2007 (previously submitted and make of record in Office Action response mailed February 5, 2007).

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Related Proceedings Appendix

None